

## ABSTRACT

A resistivity of an epitaxial layer in a trench is changed in a stepwise manner by reducing a quantity of an impurity diffused into the epitaxial layer in the trench from a semiconductor wafer in a stepwise manner, thereby suppressing an influence of auto-doping from the semiconductor wafer.

An epitaxial layer 17 is grown in a trench 16 of a semiconductor wafer 10 having a trench structure by gradually reducing a temperature in a temperature in the range of 400 to 1150°C by a vapor growth method while supplying a silane gas as a raw material gas, thereby filling the epitaxial layer 17 in the trench 16.